Read Etter Chapter 8.

1. Here is a complete C program that calculates a square root for the user:

```c
#include <stdio.h>
#include <math.h>

int main(void) {
    float x;
    printf("enter x: ");
    scanf("%f", &x);
    printf("square root is %f\n", sqrt(x));
    return 0;
}
```

   a. (15 pts) Rewrite it as a C++ program. Be complete!

   b. (3) The command `gcc -o sqroot sqroot.c -lm` is used to compile the C program. If the C++ program is sqr.cpp, what command is used to compile it?

   c. (6 pts) To print the result with a decimal point followed by 2 digits in the C program, we would change "%f" to "%.2f" in the output string. In the C++ program, this would require the addition of two statements before the result is printed. Show these two statements.
2. (15 pts: 3 for each part) Complete the following class declaration and class implementation as instructed by the comments:

```cpp
// Declaration for class Rectangle
class Rectangle
{
    public:
        // a. Declare a constructor (prototype) that takes 2 int arguments

    // b. Declare a member function (prototype) named area that takes no arguments and returns an int result.

    private:
        // c. Declare two int data members to store width and height

};
```

// Implementation of class Rectangle

// d. Implement the constructor to initialize the data members

// e. Implement the area function to return the area of the rectangle

3. (5 pts) Complete this main function to create and use a Rectangle object as defined in the last problem, and as instructed by the comments:

```cpp
int main () {
    // create a Rectangle named r with a width of 4, and a height of 7.

    // using r, and without using any constants, print the area to stdout

    return 0;
}
```

End of Hw9